

ABSTRACT OF THE DISCLOSURE

A mixed metal oxide, which may be an orthorhombic phase material, is improved as a catalyst for the production of unsaturated carboxylic acids, or unsaturated nitriles, from alkanes, or mixtures of alkanes and alkenes, by: contacting with a liquid contacting member selected from the group consisting of organic acids, alcohols, inorganic acids and hydrogen peroxide to form a contact mixture; recovering insoluble material from the contact mixture; and calcining the recovered insoluble material in a non-oxidizing atmosphere.